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Find the *Diversified Technology CPB4712/2000* at our website: *Click HERE*

>> DATA SHEET

*Providing a Cohesive Approach to Embedded Solutions*

# CPB4712



## PICMG® 2.16 PSB System/Peripheral Processor Blade

CompactPCI



Diversified Technology's CPB4712 PICMG 2.16-compliant packet switched backplane (PSB) processor blade combines high performance with low power for telecom and Internet IP-based applications.

The CPB4712 features the low voltage (LV) high performance Dual-Core Intel® Xeon processors at speeds ranging from 1.67GHz up to 2.0GHz with 2MB L2 cache. The CPB4712 is based on the Intel® 3100 chipset with 667MHz front side bus. System memory of up to 4GB is supported via two DDR2-400 SO-DIMMs. Onboard are dual 100/1000Mbps Ethernet ports routed according to PICMG 2.16, one 10/100/1000Mbps Ethernet port available at the front panel, one PMC/XMC site (64-bit/133MHz and x4 PCIe), High Speed USB, and a serial port. The CPB4712 also includes a two-stage watchdog timer for enhanced system reliability.

The CPB4712 has a PCI bridge to the backplane and can therefore operate in any slot of a PICMG® 2.16-compliant Packet Switched Backplane (PSB). PICMG® 2.9 system management is also supported via a satellite management controller.

Part of DTI's PlexSys family of PSB products, the CPB4712 was validated in DTI's PlexSys-4, 4U general purpose, carrier grade computing platform with CSB4240 Ethernet level 2/3 switch. The IPMI 1.5-compliant Baseboard Management Controller (BMC), when used with a chassis management module, supports a comprehensive, protected lights-out management scheme.

The CPB4712 system/peripheral processor blade is a cost effective choice for application developers addressing high performance, converging Telecom and Internet IP-based markets such as VPN switches, media gateways, 2.5G/3G wireless, server clusters, IP DSLAM and voice/video/data servers.

## Product Features

**Form Factor**
6U CompactPCI CPU Blade

**CPU/Cache**
Dual-Core Intel® Xeon® LV processor with max speeds of 2.0GHz and 2MB L2 cache

**Bus Interface**
- Intel® 3100 Chipset
- 667MHz Front Side Bus; 32-bit/33MHz CompactPCI Bus interface

**Memory**
- Two DDR2-400 SO-DIMM sockets
- 512MB to 4GB of total DDR2 memory

**I/O**
- Two 100/1000 Ethernet Interfaces on 2.16 Switched Fabric
- 10/100/1000 Ethernet Interface on Front Panel
- Serial ATA
- 1 PMC/XMC Site
- 2 High Speed USB Ports
- Serial Port

**BIOS**
AMI BIOS

**Physical Dimensions:**
9.2” x 6.3” x 0.8”

**OS Support**
Windows® Vista, Windows® XP with SP2, Red Hat Linux®, Solaris

**Warranty**
Parts and labor covered for 2 years

www.diversifiedtechnology.com • sales@dtims.com • 1.800.443.2667

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# CPB4712 PICMG® 2.16 PSB System Processor Blade

## CPU / Cache
• Dual-Core Intel® Xeon® LV processor (1.67GHz or 2.0GHz)
• 32KB internal L1 cache; 2MB 64-bit on-die L2 Cache

## Bus Interface
• Intel® 3100 Chipset
• 667MHz Front Side Bus; 32-bit/33MHz CompactPCI Bus interface
• 5V/3.3V CompactPCI signaling as host
• Supports one onboard 64-bit/133MHz 3.3V PMC card
• Supports one onboard x4 PCIe XMC card

## Memory
• Two DDR2-400 SO-DIMM sockets
• Memory must be registered and ECC-capable for integrity
• 512MB to 4GB of total memory
• PC2-3200, PC2-4200, or PC2-5300 Memory at 400MHz

## Data Path
• 64-bit/667MHz on CPU and memory bus
• 32-bit/33MHz on off-board CompactPCI bus
• 64-bit/133MHz on onboard PCI bus
• x4 PCIe

## Flash Memory
• 1MB Flash for BIOS
• USB Flash Disk (UDISK)

## Ethernet
• Two 100/1000 Ethernet Interfaces on 2.16 Switched Fabric
• One 10/100/1000 Ethernet Interface on faceplate

## Peripherals and I/O Interface
• 2.5" SATA HDD drive mounted on RTM
• 64-bit/133MHz PMC site
• x4 PCIe XMC
• Hardware Monitor

| I/O Interface | Front Panel | Rear Panel |
|---|---|---|
| COM 1 | RJ-45 | N/A |
| USB #1 | USB Connector | N/A |
| USB #2 | USB Connector | N/A |
| 100/1000 ENET | N/A | J3 |
| 10/100/1000 ENET | RJ-45 | N/A |
| Serial ATA | N/A | J3 |
| PCIe | N/A | J3 |
| Video | Via PMC | Via PCIe |
| USB #3 | N/A | J3 |
| USB #4 | N/A | J3 |

*Note: Rear Panel I/O accessible with DTI's CRT4712 and CRT4712E*

## Clock / Calendar
Real-time clock with battery backup CMOS RAM

## Supervisory
Two-stage programmable watchdog timer drives interrupt on 1st stage and hardware reset on 2nd stage

## Interoperability
• Validated to operate in a PICMG 2.16-compliant system platforms
• 3rd party PSB products

## OS Compatibility
Windows® Vista, Windows® XP with SP2, Red Hat Linux®, Solaris

## BIOS
• AMI BIOS
• PCI 2.2
• ACPI 1.0b and 2.0
• SMBIOS 2.3.1
• PnP 1.0a
• Serial console redirection
• Multi-boot Support (Floppy, HD, CD, USB, Network)
• Legacy USB Support
• S.M.A.R.T. Support

## BIOS cont'd
• Pop-up Boot Menu
• PXE 2.1 Boot Rom

## Management
• Integrated IPMI compliant satellite management controller
• Communicates with system management BMC or host processor
• Compliant with PICMG 2.9

## Mechanical
• 9.2 in. x 6.3 in. 0.8 in. (233.35 mm x 160 mm x 20.32 mm)
• 6U x 4HP
• Conforms to PICMG 2.0 R3.0 (Core), 2.9 (Management) 2.12 (SW interoperability), 2.15 (PTMC) and 2.16 R1.0 (PSB) specifications

## Power Requirements
Input Power Rails: +12V, +5V, +3.3V

With CPB4712, CRT4712, and 1GB memory
1.67GHz or 2.0GHz

Max Power Dissipation 54.9 W

| | | |
|---|---|---|
| ICC typical | +12V | N/A |
| | +5.0V | 5.65 A |
| | +3.3V | 4.79 A |

## Environmental
**Operating** (designed to meet)
• Temperature: 0° to 50°C full speed, up to 65°C with speed throttling
• Humidity (RNC): up to 98%
• Altitude: 13,000ft @ 34°C / 25,000ft @ 25°C
• Vibration: 5-100Hz @1g
• Shock: 10g half-sine shock for 11ms, 3 in each direction

**Storage and Transit** (in approved packaging)
• Temperature: -40°C to 70°C
• Altitude: 15240m / 50,000ft
• Shock: 40" free fall, 20g half-sine shock for 6ms, 100 in each direction
• Vibration: 30 min, random 5-20Hz @ 1m2/s3; 20-200Hz with -3dB

## Reliability and Serviceability
• MTBF: 251,306 hours @ 25°C (performed using Issue 6, Method I, Case 3 of the Bellcore IR Program)
• 2 year limited warranty

## Regulatory Compliance
• Designed for NEBS/ETSI Compliance
• Designed for CE Certification
• UL/cUL 60950-1; EN/IEC 60950-1
• EMI/EMC: FCC 47 CFR Part 15 Class B; EN 55024:1998, EN 61000-3-2, EN 61000-3-3, EN 55022:1998, CISPR22:1997, AS/NZS3548:1995

## Ordering Information
**CPB4712/1670 ***
CPB4712 Processor Blade with 1.67GHz Low Voltage (LV) Intel® Xeon® Processor and 2MB L2 cache

**CPB4712/2000 ***
CPB4712 Processor Blade with 2.0GHz Low Voltage (LV) Intel® Xeon® Processor and 2MB L2 cache

* Indicates long life-cycle support

**Options**
DDR2 400 Memory Capacity (512MB, 1GB, 2GB)
CRT4712 or CRT4712E Rear Transition Module
USB Flash Disk Capacity (128MB, 1GB, 4GB)
PMC Integration
XMC Integration

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